

3. NOTES ON BIRDS COLLECTED IN BENGUELA.

BY J. J. MONTEIRO.

The following seventy species of birds were collected in 1862 and 1863 in the littoral region of the province of Benguela, Angola (between 12° and 15° S. lat.). This region is, generally speaking, arid, barren, and rocky (gneiss, with a narrow belt of limestone and gypsum rocks, on the sea-shore). The vegetation becomes abundant or luxuriant only in the vicinity of the few rivers, and at a distance of twenty to thirty miles towards the interior.

Dr. G. Hartlaub has kindly determined the names of the species for me.

1. *ARDEA ATRICOLLIS*, Wagl.

Very abundant on all the fresh-, salt-, and brackish-water lagoons and marshes along the whole coast of Angola. Often kept tame in the houses, and, though preferring fish, will eat almost all other kind of food.

2. *PLATALEA TENUIROSTRIS*, Temm.

Also very abundant in the brackish and salt muddy lagoons.

3. *PLOTUS LEVAILLANTII*, Temm.

Shot at the "Bimbas," freshwater lakes about six miles to the interior of the town of Benguela. Fly in flocks at an astonishing height in the air, wheeling and circling over the water in the manner of birds of prey. When they descend, it is with arrow-like rapidity, dashing into the water with great force, and emerging again to the surface, on which they swim with their bodies hardly visible above water, and wriggling their long snake-like necks.

4. *ARDEA GARZETTA*, Linn.

This beautiful bird is observed on all the stagnant fresh waters of the whole of Angola. The pure white of its plumage forms a lovely contrast, as it dazzles in the bright sunshine, to the green of the large-leaved species of duckweed and water-lilies on which it gracefully stands, or to that of the tall stems and elegant feathery heads of the *Papyrus* fringing with the most vivid colour the still, shining waters.

5. *PHALACROCORAX AFRICANUS* (Gm.).

Very common on all the rivers and fresh waters of Angola. Its flesh is dark-coloured, but good eating.

6. *ERISMATURA LEUCONOTA*.

From the freshwater lakes of Benguela. There are several other species of Duck, and many other very beautiful aquatic birds, particularly at Pinda, to the south of Mossamedes.

7. *OTIS RUFICRISTA*, Sm.

8. *OTIS PICTURATA*, Hartlaub, sp. nov.

Both these handsome Bustards, called "Tuas" by the natives, are found abundantly all along the littoral region of Angola, becoming more so in the vicinity of Benguela, and inhabiting in preference the gypsum plains and country driest and barest of vegetation. They utter a loud clucking cry, and go about always in pairs, run very fast, and when alarmed fly low and heavily, generally dropping to the ground again at a short distance. They are very shy, and difficult to shoot. Their flesh is the most delicate and best-tasted of perhaps any game bird. There is a third magnificent species similar in appearance to no. 8, with a white belly, but twice its size. The stomachs of these birds contain flowers, buds, and leaves of several species of shrubs, remains of scorpions, and several kind of hard seeds. I have known several Portuguese who have attempted to rear these birds, or keep the old ones in their gardens, but have always failed to preserve them alive for any length of time.

9. *PTEROCLES NAMAQUUS* (Gm.).

Male and female. Inhabit the same locality as the preceding; gregarious in small flocks, but keeping together in pairs.

10. *CURSORIUS BISIGNATUS*, Hartlaub, sp. nov.

Same locality and habits.

11. *LOBIVANELLUS LATERALIS*, Sm.

Same locality; scarce.

12. *PODICEPS MINOR* (Linn.).

Abundant on the freshwater lakes of Angola.

13. *ARDEA MINUTA*, Linn.

This beautiful species was shot at the Bimbas or freshwater lakes at Benguela.

14. *PARRA AFRICANA*, Gm.

This beautiful bird is common on all the still freshwaters of Angola.

15. *GALLINULA CHLOROPUS* (Linn.).

Common in the same localities as the preceding.

16. *CORVUS SCAPULATUS*, Daud.

Common to the whole of the Angola coast and interior. Have the same impudent thievish propensities as our Common Crow, and very nearly the same caw and croak. Have wonderfully acute sense of sight or smell. I could never encamp anywhere but they would soon make their appearance, often in the most bare and desert situations on the coast. I once only at Benguela, but several times at Mossamedes, observed another species, all black, and the size of our rook, or perhaps a little smaller.

17. *BUBO MACULOSUS* (Vieill.).

Abundant about Benguela.

18. *STRIX FLAMMEA*, Linn.

Also abundant in the same locality.

19. *SCOPS SENEGALENSIS*, Sw.

Shot at Benguela.

20. *ATHENE PERLATA* (Vieill.).

Same.

21. *FRANCOLINUS GARIEPENSIS*, Sw.

Common all over Angola.

22. *TOCCUS MONTEIRI*, Hartlaub, sp. nov.

This fine bird is pretty abundant at Benguela. The bill is of a fine fire-red colour, becoming white near the base. Inhabits the littoral region principally. Stomach contained remains of grasshoppers, a small hornets' nest, several large larvæ, and the flat bean-like seeds of a thorny tree. Are gregarious, and fly slowly. When sitting on a branch, they raise and depress their crest-feathers, and utter a very loud, disagreeable cry, like that of a child screaming. Feed on the ground, principally in the sandy valleys and the dry beds of what are rivers and water-courses in the rainy season, digging powerfully in the sand (which they throw back between their legs) in quest of grubs, &c.

The natives all over Angola affirm most positively that the female shuts up the male in the nest so that it cannot get out, and there feeds it constantly until it has incubated the eggs, when she tears down the nest and lets it and the young brood out. It is then said to be very lean and featherless. I never had an opportunity of verifying this singular statement; but the negroes have several proverbs in connexion with this curious habit, while I have very little doubt of its correctness.

23. *TOCCUS ELEGANS*, Hartlaub, sp. nov.

From the same locality, and identical in habits.

24. *CENTROPUS SUPERCILIOSUS*, Hempr.

Very abundant everywhere in Angola. Flies low amongst the bushes, and very fond of marshy places where the vegetation is very thick. Has a very loud, clucking, continued note. Of a second magnificently coloured species, with bright blue tail, I was unable to obtain a specimen, although I met with it in Benguela, and have seen the feathers brought from Bibé.

25. *SCHIZORHIS CONCOLOR* (Smith).

These handsome birds are very abundant at Benguela and Mos-

samedes, in all the woods. Are very active in their habits, running along the branches of the trees with great rapidity, uttering a loud rapid scream, and bobbing their heads up and down, and stretching their necks in a comical manner. Their crest-feathers are always erect; are never raised or depressed. In their manners they remind an observer very much of the "Plantain-eaters." Feed on wild fruits and berries.

26. *CORYTHAIX LIVINGSTONII*, G. R. Gray.

Are sometimes brought to Benguela for sale by the negroes from Bibé. Appears to be much rarer than the *C. paulina*. I have seen both pretty abundantly to the interior of Novo Redondo, in the Celis country (peopled by a cannibal tribe of negroes), where the magnificent forest resounds in all directions with their loud unearthly cry.

I have succeeded in bringing home to England a live specimen of this species, which is now in splendid plumage and health. It is perfectly tame—so much so as not to notice strangers in the least, but, on the contrary, coming to the side of its cage to take hold and play with their fingers in its beak. It is fond of a great variety of food—all kinds of fruit, bread, biscuit, or cake soaked in milk or water, and sugar pudding, raisins, figs, currants, green peas, watercress, lettuce, boiled carrots, &c.

It is curious to observe the manner in which one of its toes is bent nearly backward when on the ground; when on its perch, its feet grasp it with two toes behind and two in front. It is fond of playing with the end of a piece of string, with which it rushes about in its cage. It always roosts on a little soft hay, &c., in a small basket, in the manner of a bird hatching; and it is exceedingly fretful at dusk until some person pets and talks to it, when it jumps into the basket and settles immediately, chattering all the while in a very satisfied and contented manner. Its cry is very loud and extraordinary—a long whoop, first repeated short many times, and finishing with a long scream. When alarmed at seeing a cat or other animal, it utters a loud cackle, something like that of a frightened hen. It is very fond of bathing, which it does in a large dish full of water, wetting itself completely, and screaming at the top of its voice all the time, making a terrible din for a bird of its size.

27. *TROGON NARINA*.

Shot in a wood at Benguela. I never observed another specimen.

28. *CUCULUS RUBECULA*, Sw.

Shot at Novo Redondo (11° S. lat.). Base of bill, eyelids, and legs of a beautiful yellow. Said by the natives to be a young one. Large eyes and extremely small body for such a large-feathered bird. It was flying in the air in the manner of a Hawk, which I took it to be when I fired at it.

29. *LAMPROCOLIUS PHENICOPTERUS*, Sw.

Extremely abundant all over Angola.

30. *DICRURUS MUSICUS*.

Also abundant everywhere. Is very active on the wing in the capture of its insect prey.

31. *ORIOLOUS LARVATUS*, Licht.

Very abundant in the woods at Benguela.

32. *HYPHANTORNIS CINCTA*, Cass.

Not uncommon at Benguela.

33. *ORIOLOUS BICOLOR*, Licht., juv.

Abundant; same locality.

34. *CRATEROPUS GYMNOPENYS*, Hartlaub, sp. nov.

Common at Novo Redondo and Benguela in the thick wood and underbrush. Fly in small flocks, and are most discordantly noisy.

35. *LANIARIUS BACKBAKIRI*, Lev.

Shot near the beach at Cirio Bay (13° S. lat.).

36. *DILOPHUS CARUNCULATUS*.

Shot in a newly dug field, evidently seeking for worms or grubs. Equemina Bay (13° 12' S. lat.).

37. *DRYOSCOPUS GUTTATUS*, Hartlaub, sp. nov.

Very abundant; but difficult to see, from hiding so close in the bushes. Chatters much and loudly, with very varied and dissimilar notes or cries. When on a branch, its rump-feathers are puffed up in a remarkable manner.

38. *EUROCEPHALUS ANGUITIMENS*, Smith.

This is also an extraordinarily noisy bird, and very abundant about the woods of Benguela. Fly in small flocks, keeping always very close together. I have counted as many as fourteen on a branch, side by side, all looking one way, and screaming and chattering most loudly all at once.

39. *AMYDRUS FULVIPENNIS* (Sw.).

Very abundant near the coast from Novo Redondo to Mossamedes (or Little Fish-Bay). Never observed it more to the north than the former locality. Only makes its appearance some months of the year (from November to June). Keep together in small flocks, uttering a cry very much like that of a Starling. They accumulate a large open nest on some flat-topped tree, without the least shade or protection, and on which as many as eight or ten birds are sitting together hatching their eggs, presenting a very singular appearance.

40. *TELEPHONUS TRIVIRGATUS*, Smith.

Common in Benguela; but difficult to obtain, from its flying close to the ground through the thick underwood.

41. *CERTHILAUDA SEMITORQUATA*, Smith.

Very abundant about Benguela, particularly in bare rocky places. Keeps always on the ground, and is very tame, as it may be passed quite close without its flying away or otherwise showing alarm.

42. *SAXICOLA INFUSCATA*, Smith.

Benguela.

43. *UPUPA DECORATA*, Hartlaub, sp. nov.

Benguela; abundant.

44. *CHRYSOCOCCYX AURATUS* (Gm.), juv.

Benguela.

45. *BUPHAGA AFRICANA*, Linn.

Abundant all over Angola, which, generally speaking, abounds in cattle. It appears to feed entirely on ticks: the stomach of this specimen contained no less than twenty-five. Its flesh is very dark-coloured, strong-smelling, and its blood extremely thick and dark. It is curious to watch the manner in which they crawl all over the body of an ox or large animal, under its belly and between its legs, which they are enabled to do by their strong claws tipped with exceedingly sharp-hooked nails. The beak is soft, of a bright red at the tip, graduating to bright yellow at the base. I once saw a nest of these birds, which they appeared to be finishing. It was large, loose, of dry grass, and nicely lined with long hair, seemingly taken from the tails of cattle. These birds were constantly robbing the hair from the tail of an old mule I had at Benguela. They will accompany a herd of cattle only for a certain distance, when they will return to their usual locality, and others immediately make their appearance and appear to take charge of the herd.

46. *IRRISOR CYANOMELAS*.

Not uncommon in Benguela.

47. *HALCYON SEMICÆRULEA* (Forsk.).

Benguela.

48. *HALCYON SENEGALENSIS* (L.).

Benguela.

49. *PSITTACULA ROSEICOLLIS*.

Very abundant at Novo Redondo to Mossamedes, and very destructive to the Indian-corn plantations.

50. *PSITTACUS RUEPPELLI*, Gray.

Also not uncommon in the same localities.

51. *TURTUR ERYTHROPIRYS*, Sw.

Common in the whole of Angola.

52. *POGONIAS LEUCOMELAS* (Bodd.).

Benguela. Their stomachs contained different kinds of small seeds ; but their principal food appears to be the fibrous bark of some herbaceous plants, as in both these specimens, as well as several others that I have examined, the stomachs always contained masses of green bark. Its strong-toothed bill would appear to be adapted, therefore, more for the purpose of tearing or cutting its bark food than for crushing seeds, as might appear at first sight ; for I never found their stomachs to contain the remains of the latter.

53. *LIMNOCORAX FLAVIROSTRIS*, Sw.

Common on all the freshwaters of Angola.

54. *CHARADRIUS GEOFFROYI*, Wagl.

On sandy plains near the sea.

55. *CALIDRIS ARENARIA* (Linn.).

On the beach at Benguela.

56. *CYPSELUS APUS* (Linn.).

Common in Benguela, building their nests very commonly under the eaves of houses.

57. *HIRUNDO STRIOLATA*, Rüpp.

Imperfect skin. Benguela ; most common about Novo Redondo.

58. *SPOROPIPES LEPIDOPTERA*, Sm.

Gregarious, in small flocks. Only observed in the rocky barren districts to the south of Benguela. Upwards of a dozen were caught for me by the blacks, one night, in a hole in the straw thatch of a hut, where they are fond of roosting together ; and I had them alive many months in a cage, feeding on grass- and other small seeds.

59. *PLATYSTEIRA SENEGALENSIS*, L.

Also only observed in the same locality, generally in pairs, twittering much, and feeding on insects, principally small spiders.

60. *PARUS AFER*.

Benguela.

61. *BUSERINUS ALBIGULARIS*, Gm.

Benguela.

62. *PYTELIA ELEGANS*, Gm.

Loanda and Benguela. Called by the Portuguese "Maracachão," and much esteemed as a cage-bird on account of its marvellously sweet song.

63. *ESTRElda ASTRILD* (Linn.).

Very abundant in Angola, particularly to the south ; gregarious, in flocks of hundreds of individuals.

64. *NECTARINIA NATALENSIS*, Jard.

Benguela. The only specimen observed.

65. *NECTARINIA JARDINII*, Verr.

Very abundant about Benguela, even in comparatively barren places, where, I have observed, they eat little insects, particularly small spiders.

66. *PICUS FLAVISCAPUS*, Ill.

From Mossamedes, or Little Fish-Bay.

67. *MEROPS ERYTHROPTERUS*.

Benguela.

68. *MEROPS HIRUNDINACEUS*.

Benguela.

69. *MEROPS ÆGYPTIUS*, F.

Benguela. These birds have all a very graceful flight, circling leisurely in the air. This last is most abundant.

70. *ALCEDO CRISTATA*.

Abundant at the Bimbas (lagoons near Benguela).

4. SUPPLEMENTARY NOTES TO THE REVIEW OF VERMETIDÆ.

By O. A. L. MÖRCH, OF COPENHAGEN.

As I see, from Mr. Carpenter's "Supplementary Report"*[†], that several points in my papers on *Vermetidæ*, in these 'Proceedings' for the years 1861 and 1862, may be misunderstood, I feel myself called upon to make some further explanations.

The constancy of conchological characters is very different in different families. In some families, for instance, very small differences in the sculpture, the convexity of the whorls, and the height of the spire are very constant and of great importance. Thus among the *Helices* such differences are frequently supported by very notable and constant differences in the lingual dentition. In some genera the colours are exceedingly variable in one and the same species—for instance, in *Meretrix*, *Oliva*, *Pecten*, &c.,—in others, again, very constant as a specific mark—for instance, in *Conus*, *Cypræa*, *Natica*, &c. Prof. Troschel has thus lately proved that *Natica hebræa* (Martyn) and *N. stercus muscarum* (Chemn.†), chiefly distinguished by a somewhat different pattern of colour, and united into one species by several modern authors, have a notably

* Report of the British Association for the Advancement of Science for 1863, p. 536.

† = *Natica adspersa* (Mke.) and *N. millepunctata* (Linn.), both of which are from the Mediterranean.